Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Original) A method for controlling transmission latency in a communications system, wherein the communications system is subject to a noise signal having at least a first noise phase and a second noise phase, the method comprising:

determining a first bit rate for symbols transmitted during the first noise phase, and a second bit rate for symbols transmitted during the second noise phase, the first bit rate and the second bit rate being constrained such that a transmission latency does not exceed a predetermined maximum allowed transmission latency; and

transmitting symbols at the first bit rate during the first noise phase and at the second bit rate during the second noise phase.

2. (Currently Amended) [[A]] The method ~~accordingly~~ according to claim 1, further comprising:

communicating the predetermined maximum allowed transmission latency via a message to a receiver of the communications system.

3. (Currently Amended) [[A]] The method according to claim 2, ~~the method~~ further comprising:

configuring, in accordance with the first bit rate, a first bit allocation table for symbols transmitted during the first noise phase; and

configuring, in accordance with the second bit rate, a second bit allocation table for symbols transmitted during the second noise phase.

4. (Original) An apparatus for controlling transmission latency in a communications system, wherein the communications system is subject to a noise signal having at least a first noise phase and a second noise phase, the apparatus comprising:

a constrained rate receiver for determining a first bit rate for symbols transmitted during the first noise phase, and a second bit rate for symbols transmitted during the second noise phase, the first bit rate and the second bit rate being constrained such that a transmission latency does not exceed a predetermined maximum allowed transmission latency; and

a constrained rate transmitter for transmitting symbols at the first bit rate during the first noise phase and at the second bit rate during the second noise phase.

5. (Currently Amended) [[An]] The apparatus according to claim 4, wherein the constrained rate transmitter further ~~comprising~~ comprises:

a latency control transmitter for communicating the predetermined maximum allowed transmission latency via a message to the constrained rate receiver.

6. (Currently Amended) [[An]] The apparatus according to claim 5, wherein the constrained rate receiver further comprises:

a first bit allocation table controller for configuring, in accordance with the first bit rate, a first bit allocation table for symbols transmitted during the first noise phase; and

a second bit allocation table controller for configuring, in accordance with the second bit rate, a second bit allocation table for symbols transmitted during the second noise phase.

7. (Currently Amended) A constrained rate receiver for controlling transmission latency in a communications system, wherein the communications system is subject to a noise signal having at least a first noise phase and a second noise phase, the constrained rate receiver ~~being adapted~~ configured to ~~determining~~ determine a first bit rate for symbols transmitted during the first noise phase, and a second bit rate for symbols transmitted during the second noise phase, the first bit rate and second bit rate being constrained such that a transmission latency does not exceed a predetermined maximum allowed transmission latency, the constrained rate receiver comprising:

a first bit rate controller for determining the first bit rate based on the second bit rate and the pre-determined maximum allowed transmission latency; and

a second bit rate controller for determining the second bit rate based on a signal-to-noise ratio associated with the second noise phase,

wherein the signal-to-noise ratio associated with the second noise phase is higher than a signal-to-noise ratio associated with the first noise phase.

8-9. (Cancelled)

10. (Currently Amended) [[A]] The constrained rate receiver according to claim 7, ~~capable of receiving~~ further configured to receive a message communicating the predetermined maximum allowed transmission latency.

11. (Currently Amended) [[A]] The constrained rate receiver according to claim 10, further comprising:

a first bit allocation table controller for configuring, in accordance with the first bit rate, a first bit allocation table for symbols transmitted during the first noise phase; and

a second bit allocation table controller for configuring, in accordance with the second bit rate, a second bit allocation table for symbols transmitted during the second noise phase.

12-13. (Cancelled)

14. (Currently Amended) [[A]] The constrained rate receiver according to claim [[13]] 7, wherein the first bit rate controller comprises a controller for determining the first bit rate in accordance with the following equation:

$$R_1 = -R_2 * \frac{S_2}{S_1} * \frac{latency * C + SymTime * S_1}{latency * C - SymTime * S_2}$$

where R_1 is the first bit rate, R_2 is the second bit rate, latency is the predetermined maximum allowed transmission latency, and SymTime is a discrete multi-tone symbol duration, for S_2 symbols of the second noise phase transmitted during a number C of noise clock cycles and S_1 symbols of the first noise phase transmitted during the number C of noise clock cycles.

15. (Currently Amended) [[A]] The constrained rate receiver according to claim 14, operating in a communications system which is an adaptive rate communications system.

16. (Currently Amended) [[A]] The constrained rate receiver according to claim 15, wherein the communications system is an asymmetric digital subscriber line communications system.

17-20. (Cancelled)

21. (New) The method according to claim 1, wherein:

the first noise phase corresponds to a first signal-to-noise ratio, and the second noise phase corresponds to a second signal-to-noise ratio, the second signal-to-noise ratio being higher than the first signal-to-noise ratio,

the second bit rate is determined based on the second signal-to-noise ratio, and

the first bit rate is determined based on the second bit rate and the pre-determined maximum allowed transmission latency.

22. (New) The apparatus according to claim 4, wherein:

the first noise phase corresponds to a first signal-to-noise ratio, and the second noise phase corresponds to a second signal-to-noise ratio, the second signal-to-noise ratio being higher than the first signal-to-noise ratio,

the second bit rate is determined based on the second signal-to-noise ratio, and

the first bit rate is determined based on the second bit rate and the pre-determined maximum allowed transmission latency.